Sustainable Soils Alliance - Response to BBIA Food Waste Coalition Presentation – DEFRAs Resources and Waste Strategy (RWS)

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Main points

Separation of plastics from food waste

Separation of plastics from food waste before AD or composting is a sensible proposition. Having worked with mixed municipal solid wastes derived products (as feedstock's for AD systems) one of my main concerns in use of the resulting novel material was the potential integration of plastics within the feedstock material and the presence of contaminants and co-contaminants that were beyond the scope of PAS:110/PAS:100 (Blake et al., 2017).

Feedstock and product quality and consistency

Quality and consistency of the product will be dependent upon the quality and consistency of the feedstock and the process implemented. The point relating to strengthening quality through strengthening PAS: 100 (in terms of plastic content) is a positive step for plastic reduction in compost type materials, and will potentially assist in developing economically and environmentally viable markets for the resulting products. Note that PAS: 100 may need further updating e.g. to consider new and novel contaminants (e.g. micropollutants and biological contaminants).

Weekly food waste collections

Weekly separate food waste collections are a sound and sensible suggestion. Pervious publications have indicated that GHG emissions from food wastes increase over the time they are stored (REFERENCES).

Separate food waste collections or food and garden waste collection followed by AD or composting have both been shown to decrease GHG emissions (e.g. Calabro, 2009 and papers citing or cited by).

Consideration should be made to the logistics (e.g. Eisted et al., 2009).

The process itself and ensuring quality and consistency of the product

The process at a LA level indicates two distinct pathways for processing of the food waste

- AD + composting, and
- Composting

Used in a flexible/interchangeable way.

This appears to be a potentially practical solution for energy and soil amendment production.

It is not clear from the presentation if the product will be mixed, or separate, and if there will be flexibility and limits in terms of the quality and consistency of the final product. This requires further clarification.

Additionally, differences exist in the general physical, chemical and biological composition of composts and digestates, and these may have implications for future use as soil amendment beyond the short term (e.g. Tambone et al., 2010 and citing articles; Prays et al., 2018 on the modelling over the longer term). Have considerations been made to these differences and potential implications (Johnson et al., 2018).

This aspect may be the primary area where more research may be needed to support the development of this system. And to support the statement that the process maximises the end product and provides higher value outputs to the soil.

Consideration could be made to blending or co-digestion of food wastes with other agri-wastes obviate issues with composition. There is a vast body of literature that already exists about co-digestion.

References:

Blake et al., 2017 http://dx.doi.org/10.1016/j.wasman.2016.10.031

Calabro., 2009 https://www.sciencedirect.com/science/article/pii/S0956053X09000713

Eisted et al., 2009 https://journals.sagepub.com/doi/pdf/10.1177/0734242X09347796

Johnson et al., 2018 https://www.nature.com/articles/d41586-018-07546-z

Prays et al., 2018 https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0204121

Tambone et al., 2010 https://www.sciencedirect.com/science/article/pii/S0045653510009422